

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings of claims in the application.

Listings of Claims:

1. (Currently Amended) A patch antenna comprising:

a main body including a dielectric substrate in which a patch electrode is provided on one principal surface thereof and a ground electrode is provided on the other principal surface thereof, two feeding points being provided in the patch electrode;

a circuit, positioned below the ground electrode opposite the dielectric substrate, that generates a phase difference of 90° between high-frequency signals supplied to the two feeding points through a pair of output terminals connected to the two feeding points; and

a Wilkinson distribution circuit including a pair of output terminals connected to the 90°-phase-difference generating circuit,

wherein an input terminal of the Wilkinson distribution circuit is connected to a feeder line so that the main body radiates a circularly polarized radio wave.

2. (Original) The patch antenna according to Claim 1, wherein the Wilkinson distribution circuit comprises:

a junction;

two parallel-connected line conductors connected to the junction, each line conductor having an electric length of about $\lambda/4$ and a characteristic impedance substantially equal to $\sqrt{2 \times Z1 \times Z2}$, wherein Z1 is an input impedance of the Wilkinson distribution circuit, Z2 is an input impedance of the main body, and λ is a wavelength of the high-frequency signal on a transmission line; and

a resistor whose both ends are connected between the 90°-phase-difference generating circuit and the line conductors, the resistance of the resistor being substantially equal to $2 \times Z2$.

3. (Original) The patch antenna according to Claim 2, wherein the input impedance of the Wilkinson distribution circuit is about $50\ \Omega$, the characteristic impedance of each of the line conductors is about $70\ \Omega$, and the resistance of the resistor is about $100\ \Omega$.

4. (Original) The patch antenna according to Claim 1, wherein the 90° -phase-difference generating circuit and the Wilkinson distribution circuit are provided on a lower surface of a circuit board, which is fixed to a lower surface of the ground electrode of the main body in a laminating manner, upper ends of two feeding pins which extend through the dielectric substrate and the circuit board are connected to the feeding points, and lower ends of the two feeding pins are connected to the output terminals of the 90° -phase-difference generating circuit.

5. (New) The patch antenna according to Claim 1, wherein the dielectric substrate is square shaped.

6. (New) The patch antenna according to Claim 1, wherein the patch electrode is square shaped.

7. (New) A patch antenna comprising:

a main body including a dielectric substrate in which a patch electrode is provided on one principal surface thereof and a ground electrode is provided on the other principal surface thereof, two feeding points being provided in the patch electrode;

a circuit, positioned below the ground electrode opposite the dielectric substrate, for generating a phase difference of 90° between high-frequency signals supplied to the two feeding points through a pair of output terminals connected to the two feeding points; and

a Wilkinson distribution circuit including a pair of output terminals connected to the 90° -phase-difference generating circuit,

wherein an input terminal of the Wilkinson distribution circuit is connected to a feeder line so that the main body radiates a circularly polarized radio wave,

wherein the Wilkinson distribution circuit comprises a junction;

two parallel-connected line conductors connected to the junction, each line conductor having an electric length of about $\lambda/4$ and a characteristic impedance substantially equal to $\sqrt{2 \times Z1 \times Z2}$, wherein Z1 is an input impedance of the Wilkinson distribution circuit, Z2 is an input impedance of the main body, and λ is a wavelength of the high-frequency signal on a transmission line; and a resistor whose both ends are connected between the 90°-phase-difference generating circuit and the line conductors, the resistance of the resistor being substantially equal to $2 \times Z2$.

8. (New) The patch antenna according to Claim 7, wherein the input impedance of the Wilkinson distribution circuit is about 50 Ω , the characteristic impedance of each of the line conductors is about 70 Ω , and the resistance of the resistor is about 100 Ω .

9. (New) The patch antenna according to Claim 7, wherein the 90°-phase-difference generating circuit and the Wilkinson distribution circuit are provided on a lower surface of a circuit board, which is fixed to a lower surface of the ground electrode of the main body in a laminating manner, upper ends of two feeding pins which extend through the dielectric substrate and the circuit board are connected to the feeding points, and lower ends of the two feeding pins are connected to the output terminals of the 90°-phase-difference generating circuit.

10. (New) A patch antenna comprising:

a main body including a dielectric substrate in which a patch electrode is provided on one principal surface thereof and a ground electrode is provided on the other principal surface thereof, two feeding points being provided in the patch electrode;

a circuit, positioned below the ground electrode opposite the dielectric substrate, for generating a phase difference of 90° between high-frequency signals supplied to the two feeding points through a pair of output terminals connected to the two feeding points; and

a Wilkinson distribution circuit including a pair of output terminals connected to the 90°-phase-difference generating circuit,

wherein an input terminal of the Wilkinson distribution circuit is connected to a feeder line so that the main body radiates a circularly polarized radio wave,

wherein the 90°-phase-difference generating circuit and the Wilkinson distribution circuit are provided on a lower surface of a circuit board, which is fixed to a lower surface of the ground electrode of the main body in a laminating manner, upper ends of two feeding pins which extend through the dielectric substrate and the circuit board are connected to the feeding points, and lower ends of the two feeding pins are connected to the output terminals of the 90°-phase-difference generating circuit.